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ABSTRACT

A job analysis was conducted to define the knowledge domain of general principles of teaching and learning necessary for newly licensed (certified) teachers, regardless of grade level or subject, to perform in a competent manner. The results of the study are being used to develop test specifications for The Praxis Series: Professional Assessments for Beginning Teachers. An initial draft of the knowledge inventory was prepared by Educational Testing Service specialists. This draft was reviewed by a panel of teachers, teacher educators, administrators, and state officials. A revised draft of the inventory was then sent as a survey to educators who were asked to rate the knowledge statements on a five-point importance scale. Responses were received from 921 teachers, 422 teacher educators, 425 school administrators, and 53 state administrators. Of the 64 knowledge statements, 16 were problematic to one or more of the respondent groups. Before these statements could be used in test specifications, these knowledge areas will need written rationales. Without qualification, however, 75% (48) of the statements may be used in the development of test specifications. Ten tables present survey results and study findings. Nine appendixes present supplemental information about survey development and the inventory itself. (Contains 13 references.) (SLD)

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THE PRAXIS SERIES
Professional Assessments for Beginning Teachers™

Beginning Teacher Knowledge of General Principles of Teaching and Learning: A National Survey

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Beginning Teacher Knowledge of General Principles of Teaching and Learning: A National Survey

Executive Summary

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A job analysis was conducted to define the knowledge domain of general principles of teaching and learning necessary for newly licensed (certified) teachers, regardless of grade level or subject matter taught, to perform their jobs in a competent manner. The results of the study are being used to develop test specifications for the Principles of Learning and Teaching assessment of The Praxis Series: Professional Assessments for Beginning Teachers™.

An initial draft of the knowledge inventory was developed by ETS test development and research staff with expertise in general pedagogy, human growth and development, and learning theory. This draft was reviewed by an External Review Panel of teachers, teacher educators, school administrators, and state department officials. The educators provided useful comments about content and format, which were incorporated into the initial draft of the inventory. An Advisory/Test Development Committee reviewed and revised this second draft of the inventory. The knowledge inventory was then sent in survey form to 921 teachers, 422 teacher educators, 425 school administrators, and 53 state administrators, who were asked to rate the individual knowledge statements using a 5-point importance scale.

Three types of analyses were conducted: (1) frequency distributions across background information categories (e.g., sex, years of teaching experience, grade level); (2) mean importance ratings by relevant subgroups; and (3) correlations of mean importance ratings within relevant subgroups. A cutpoint of 2.50 (midway between *Moderately Important* and *Important*) was set to differentiate between important knowledge and unimportant knowledge for purposes of test development. Knowledge statements that received a mean rating of less than 2.50 by any of the relevant subgroups of respondents (job category; geographic location; race/ethnicity; sex; school level; years of teaching experience) were identified. Test development staff were advised to use knowledge statements that were rated above the 2.50 cutpoint for purposes of setting test specifications. However, if it was determined that the reason for inclusion of particular statements that fell below 2.50 was compelling, then the Advisory/Test Development Committee was requested to provide a written rationale for the inclusion of the statements.

Sixteen of the 64 knowledge statements proved problematic to one or more of the designated subgroups; that is, one or more subgroups rated the statement below the cutpoint of 2.50. One of these statements was rated below 2.00. The 16 knowledge statements represent 25% of the inventory. Before they may be used in test specifications, these knowledge areas need written rationales from the Advisory/Test Development Committee. Without qualification, 75% (n=48) of the knowledge areas may be used to develop test specifications.

The knowledge statements that were identified as important by the surveyed educators should be used as the foundation for the development of test specifications. Test

specifications that are linked to the results of a job analysis provide support for the content validity of the derived assessment measures and may be considered as part of an initial step in ensuring the fairness of the derived assessment measures to subgroups of teacher candidates. It is reasonable to assume that, due to testing and psychometric constraints (e.g., time limits, ability to measure some content reliably), not all of the identified content may be included on assessment measures. One source of information that may be used to guide the test development committee in their decision of what content to include on the assessment measures is the mean importance rating. Although a rank ordering of the content by mean importance rating is not implied, it is recommended that initial consideration be given to content that is well above the cutpoint and represents the appropriate breadth of content coverage.

Correlations for relevant subgroups were in the .90s, which suggests that there is substantial agreement among various subgroups of teachers with respect to the relative importance of the knowledge needed by newly licensed teachers in the domain of general principles of teaching and learning.

Evidence was also provided in this study of how well each domain was covered by the specific knowledge statements. The results suggest that all of the domains were judged to be well covered by the specific knowledge statements. Additionally, suggestions were offered regarding the relative weights each domain should receive in test specifications for the Praxis II: Subject Assessment in Principles of Learning and Teaching.

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Beginning Teacher Knowledge of General Principles of Teaching and Learning: A National Survey

Introduction

New developments in psychological and educational research, measurement, and technology, as well as recent national discussions about the preparedness and effectiveness of teachers, have spurred Educational Testing Service (ETS) to develop a new generation of teacher assessments (Dwyer, 1989). This new assessment system, called The Praxis Series: Professional Assessments for Beginning Teachers™, is designed to be used by states as part of the process they employ to license or certify their teachers. The new system will consist of three stages. Praxis I: Academic Skills Assessments are designed to be used by states to decide whether prospective teachers have the basic academic skills that serve as the foundation for teacher development and practice. Basic academic skills (e.g., reading, writing, mathematics) are judged to be important for teachers regardless of school level or subject matter taught (Rosenfeld & Tannenbaum, 1991). Praxis II: Subject Assessments measure knowledge of subject matter (e.g., biology, social studies, Spanish), general principles of teaching and learning, and content-specific pedagogy. Praxis III: Classroom Performance Assessments are performance-based measures of the beginning teacher's application of teaching knowledge and skills.

This report presents the job analysis study that was conducted to serve as one of the bases for documenting the content validity of the Praxis II assessment of Principles of Learning and Teaching. The purpose of the study was to describe the most important knowledge domains needed by newly licensed (certified) teachers, regardless of subject matter or grade level taught. The report presents the methods used to define the job-related knowledge, the statistical analyses conducted, the results of these analyses, and implications of the results for test development.

Standards for Educational and Psychological Testing

The Standards for Educational and Psychological Testing (1985) is a comprehensive technical guide that provides criteria for the evaluation of tests, testing practices, and the effects of test use. It was developed jointly by the American Psychological Association (APA), the American Educational Research Association (AERA), and the National Council on Measurement in Education (NCME). The guidelines presented in the Standards have, by professional consensus, come to define the necessary components of quality testing. As a consequence, a testing program that adheres to the Standards is more likely to be judged to be valid (defensible) than one that does not.

Criteria designated as "primary" within the Standards "should be met by all tests...unless a sound professional reason is available to show why it is not necessary, or technically feasible, to do so in a particular case. Test developers and users...are expected to be able to explain why any primary standards have not been met" (AERA/APA/NCME, 1985, p. 2). One of the primary standards is that the content domain of a licensure or certification test should be defined in terms of the importance of the content for competent performance in an occupation. "Job analyses provide the primary basis for defining the content domain" (p. 64).

The use of job analysis to define the content domain is a critical component in establishing the content validity of licensure and certification examinations. Content

validity is the principle validation strategy used for these examinations. It refers to the extent to which the content covered by an examination overlaps with the important components (tasks, knowledge, skills, or abilities) of a job (Arvey & Faley, 1988). Demonstration of content validity is accomplished through the judgments of subject-matter experts. It is enhanced by the inclusion of large numbers of subject-matter experts who represent the diversity of the relevant areas of expertise (Ghiselli, Campbell, & Zedeck, 1981). The lack of a well-designed job analysis is frequently cited by the courts as a major cause of test invalidity.

Job Analysis

Job analysis refers to procedures designed to obtain descriptive information about the tasks performed on a job and/or the knowledge, skills, and abilities thought necessary to adequately perform those tasks (Gael, 1983). The specific type of job information collected by a job analysis is determined by the purpose for which the information will be used. For purposes of developing licensure and certification examinations, a job analysis should identify the important knowledge or abilities necessary to protect the public--interpreted as the importance of the content for competent performance in an occupation (AERA/APA/NCME, 1985). In addition, a well-designed job analysis should include the participation of various subject-matter experts (Mehrens, 1987); and the data collected should be representative of the diversity within the job. Diversity refers to regional or job context factors and to subject-matter expert factors such as race/ethnicity, experience, and sex (Kuehn, Stallings, & Holland, 1990). The job analysis conducted in this study was designed to be consistent with the Standards and current professional practices.

Objectives of the Job Analysis Study

The objectives of this study were: (1) to construct a comprehensive domain of knowledge of general principles of teaching and learning that is important for elementary, middle, and secondary school teachers; and then (2) to obtain, using survey methodology, the independent judgments of a national sample of educational professionals (teachers, teacher educators, school and state administrators) to identify knowledge important for newly licensed school teachers. This identification component serves a critical role to ensure that the domain (in whole or in part) is judged to be relevant to the job of a newly licensed (certified) teacher by a wide range of educational professionals. It is the knowledge that is identified to be important that will be used in the development of test specifications for the Principles of Learning and Teaching assessment of Praxis II.

Methods

Two major activities constituted the methodology used in this study: 1) defining the important knowledge domain for teaching; and 2) evaluating the domain for its importance to the newly licensed teacher. Table 1 illustrates these activities and their related job analysis steps.

Table 1. Steps in the Job Analysis Process

Activities	Steps
Defining the Domain for Teaching	1. Draft Job Analysis Inventory 2. External Review Panel 3. Advisory/Test Development Committee
Evaluating the Domain for its Importance to Newly Licensed Teachers	1. Administration of the Job Analysis Inventory 2. Data Analysis

The inventory of knowledge of general principles of teaching and learning was developed through an iterative process involving a national group of experts in the field of education. These practicing professionals included elementary, middle, and secondary school teachers, teacher educators at all three school levels, school administrators with responsibility for evaluating beginning teachers, and state department officials with responsibility for overseeing teacher credentialing.

Defining the Domain for Teaching

Defining the knowledge domain consisted of three steps. The first step involved constructing a draft job analysis inventory. Next, the draft was sent to practicing professionals, and interviews were held with each individual. Third, an Advisory/Test Development Committee meeting was held to further review and refine the draft. More detailed information about each of these steps is provided below.

Draft job analysis inventory. ETS test development specialists and the job analysis project director constructed a draft inventory of the knowledge of general principles of teaching and learning. The inventory was based on a review of relevant literature (e. g., Reynolds, 1990; State Task Force, 1990), state requirements for teacher licensure (Klem, 1990), the specifications for the current NTE® test for Professional Knowledge, and the expertise of ETS staff members. This draft functioned as the initial definition of the knowledge and ability domain of general principles of teaching and learning.

The draft inventory contained five domains of knowledge: pedagogy, students (human growth and development), curriculum, context, and professional issues. There were 106 knowledge statements across the five domains.

External Review Panel. The draft inventory was mailed to a group of nine teaching professionals (see Appendix A for the list of professionals). This group consisted of one elementary/middle school teacher, one middle school teacher, one high school teacher, one school district administrator, one state department official, and four teacher educators. Individuals were considered for membership through a process of peer recommendation. All of the review panelists had experience either teaching or supervising teachers. Generally, the panel members were prominent and active in professional associations and/or teacher licensure. The panel was formed so that there was representation by sex, race/ethnicity, and geographic location.

The External Review Panel members were asked to review the draft and make modifications they felt necessary in order to adequately cover the important aspects of general principles of teaching and learning. They were further instructed that these modifications could include the addition of important knowledge statements, deletion of unimportant statements, elaboration of statements with relevant examples, and revision of

statements into language that was clearer and more appropriate. ETS research staff interviewed the panelists by telephone to obtain their suggested modifications. ETS test development staff then reviewed the compiled recommendations of the panel.

Based upon the revisions suggested by the panel and test development staff's re-evaluation of the domain, some modification of the inventory occurred. The major content domains remained the same; however, several of the knowledge statements were reworded. Some statements were deleted due to their overlap with other statements or perceived lack of relevance. Where perceived necessary, additional knowledge statements were included in the inventory.

Advisory/Test Development Committee. A meeting was held June 7-10, 1990 in Princeton, New Jersey with an Advisory/Test Development Committee of nine professional educators (see Appendix B for a list of committee members). The meeting was chaired jointly by ETS test development and research staff. The Advisory/Test Development Committee was charged with developing a final version of the job analysis inventory and with developing the specifications for the new test. Like the External Review Panelists, members of the Advisory/Test Development Committee had knowledge of teaching and/or supervising teachers. The committee comprised five teachers and four teacher educators and had representation by sex, ethnicity, and geographic location.

Prior to the June meeting, the committee members were mailed copies of the draft inventory. The instructions given to committee members regarding the job analysis were essentially the same as those given to the External Review Panel. They were asked to review the draft and make modifications necessary in order to adequately cover general principles of teaching and learning they felt were important for all teachers, regardless of subject matter or grade level taught. Advisory/Test Development Committee members were further instructed that these modifications could include the addition of important knowledge statements, deletion of unimportant statements, elaboration of statements with relevant examples, and revision of statements into language that was clear and appropriate. The group interaction during the meeting fostered excellent discussions that generated suggestions not made during the individual interviews with members of the External Review Panel.

During their review, the committee members refined the inventory. Using the comments of the External Review Committee as a reference, the Advisory/Test Development Committee renamed the categories within the domains, added and deleted statements, wrote introductory paragraphs for categories, and rephrased existing statements. For example, the committee changed the domain of Knowledge of Students to Human Development and the Learning Process. They combined statements in Knowledge of Pedagogy, Knowledge of Curriculum, and Knowledge of Context to create the new domains of Curriculum Planning and Design, Management of the Learning Process, and Assessment and the Learning Process. When they completed their revisions, the inventory contained 64 knowledge statements and five new domain headings. (Many of the original knowledge statements were lists of pedagogical methods that the Advisory/Test Development Committee combined into single statements using the methods as examples.)

The Advisory/Test Development Committee also reviewed the proposed rating scale for the inventory during the meeting. The rating scale required respondents to make judgments regarding importance to the newly licensed teacher. The use of an importance scale is consistent with professional standards set forth in the Standards for Educational and Psychological Testing (AERA/APA/NCME, 1985). The rating scale is shown in Table 2.

Table 2. Rating Scale Used in the Job Analysis Inventory

Regardless of subject matter or grade level taught, how important is it for a newly licensed (certified) teacher to know the following in order to perform his/her job in a competent manner?
(0) Not important (1) Slightly important (2) Moderately important (3) Important (4) Very important

The committee also reviewed items concerning respondent background information (e.g., sex, years of teaching experience, geographic location). Such items were included in the inventory to describe the respondents and to provide an opportunity for conducting subgroup analyses where appropriate.

After the meeting, the revised job analysis inventory was mailed to each committee member for final approval. Advisory/Test Development Committee members made further suggestions, which ETS staff incorporated into the final version of the inventory. Committee members suggested adding examples to clarify statements and adding "Combination" to the choices for the background information question on race/ethnicity.

Pilot testing of the survey. The inventory was pilot tested on a group that included three classroom teachers (one elementary, one middle, one high), one school administrator, and one teacher educator (see Appendix C for a list of pilot test participants). The purpose of the pilot test was to ensure that the instructions were clear and that the survey form was readily understood and could be completed by respondents. Pilot participants were asked to review the survey for clarity of wording and instruction, ease of use, and comprehensiveness of content coverage. They were asked to make their comments on a questionnaire that accompanied the survey and to mail the questionnaire and survey back to ETS in a postage-paid envelope. The pilot test indicated that no one had difficulty completing the inventory and that no additional changes were necessary.

Final survey format. A copy of the final version of the inventory is found in Appendix D. The final survey consisted of five sections:

- Part I was the introduction, which described the inventory's purpose and gave directions for completing the inventory.
- Part II contained five knowledge domains and their respective knowledge statements:
  Human Development and the Learning Process;
  Curriculum Planning and Design;
  Management of the Learning Process;
  Assessment and the Learning Process; and
  Professional Issues Related to Teaching and Learning.
  A total of 64 knowledge statements was included in Part II. There was also a content coverage question for each knowledge domain, bringing the total number of questions to 69. Part II also contained the rating scale used for determining the importance of each knowledge statement for newly licensed teachers.
- Part III asked respondents to list any important knowledge domains they believed were not included in the inventory.
- Part IV asked respondents to allocate 100 points across domains covered in the inventory to show how much emphasis they believed should be placed on each

domain in the resulting test. These ratings are used to help assist test development committees in deciding how many test questions to put in each relevant knowledge domain.

- Part V asked respondents to complete background information questions (e.g., grade level taught, school setting, sex); responses to these questions were used to characterize the survey respondents and, where appropriate, to conduct subgroup analyses.

Evaluating the Domain for its Importance to Newly Licensed Teachers

Once the content domain had been defined by the iterative process described above, it was evaluated in terms of its importance for competent job performance by the newly licensed teacher. The evaluation was carried out in two steps: 1) an administration of the job analysis inventory to a larger group of practicing professionals; and 2) an analysis of the data from this administration.

Administration of the job analysis inventory. The inventory was mailed with an accompanying cover letter (Appendix E) and post-paid return envelope to groups of practicing professionals, which included classroom teachers, school administrators, college faculty, and state department officials. Table 3 shows the numbers and types of educators who were sent the inventory.

Table 3. Respondent Groups and Number of Inventories Mailed

Respondent Group	Number Mailed
Teachers--MDRS (approximately 18 per state plus the District of Columbia: 6 elementary school, 6 middle school, 6 high school)	921
School Administrators--MDRS (approximately 6 per state plus the District of Columbia: 2 elementary school, 2 middle school, 2 high school)	323
School Administrators--NAESP (2 per state plus the District of Columbia)	102
Teacher Educators--MDRS (approximately 6 per state plus the District of Columbia: 2 elementary school, 2 middle school, 2 high school)	299
Teacher Educators--Historically Black Colleges	123
State Department Officials (approximately 1 per state plus the District of Columbia and the Overseas Department of Defense Schools)	53
Advisory/Test Development Committee Members	9
Total Mailed	1,830

The names of teachers were drawn at random from mailing lists obtained through Market Data Retrieval Services (MDRS). MDRS is a survey research organization whose data base contains the names of over 90% of all the public school teachers, school administrators, and college faculty in the United States.

The names of school administrators were also obtained through MDRS. An additional group of school administrators was obtained from the National Association of Elementary School Principals (NAESP). An attempt was made to obtain a mailing list of members of the National Association of Secondary School Principals; however, the organization could not provide their membership list in a format that would be usable to the project.

One list of names of teacher educators was obtained from MDRS. A second list was obtained through the deans of teacher education programs at Historically Black Colleges (HBCs). Deans of HBCs were invited to submit the names of elementary, middle, and high school teacher educators who would be willing to participate in the study.

Surveys were then sent to the teacher educators nominated by the HBC deans. The process involved 83 of the 88 HBCs in the United States and netted 123 names.

The names of state department officials were acquired from the National Association of State Directors of Teacher Education and Certification (NASDTEC) membership list.

A follow-up postcard (see Appendix F) requesting completion of the inventory was sent approximately two weeks after the initial mailing. A follow-up inventory was mailed approximately four weeks after the initial mailing to each teacher who had not returned the inventory.

Data analysis. Three types of analyses were conducted: (1) frequencies of responses to the background information questions (e.g., age, number of years of teaching experience, ethnicity); (2) mean importance ratings by relevant subgroups of respondents (e.g., teachers, teacher educators, females); and (3) correlations of mean importance ratings within relevant subgroups.

Frequencies of responses to the background information questions were computed to describe the group of educators who responded to the survey. Six of these background questions were particularly important for purposes of analyzing the data of this study: job category; geographic location; sex; race/ethnicity; school level taught; and years of teaching experience. Job category (teacher, school administrator, state administrator, teacher educator) was analyzed separately to determine if these groups of respondents had similar perceptions regarding the important knowledge needed by the newly licensed teacher. Geographic location was considered relevant in order to determine if educators from different areas of the country had similar perceptions. The four geographic regions (South, Far West, Northeast, Central)[1] used in the analysis are consistent with the categories used by the National Association of State Directors of Teacher Education and Certification. Sex and race/ethnicity were considered relevant subgroups because they represent protected "classes" under Title VII of the Civil Rights Act of 1964. School level taught (elementary, middle, secondary) was considered important to determine if respondents' perceptions were similar regardless of school level taught. Years of teaching experience was included to determine if perceptions of importance differed by years of teaching experience. An analysis by relevant subgroups is an important part of the data analysis, for it is used to determine a core of knowledge that all relevant subgroups agree is important for the newly licensed (certified) school teacher.

Mean importance ratings were computed for each statement by relevant subgroups that numbered 30 or more--this number is necessary to ensure an accurate estimate of the population mean (Walpole, 1974). The comparison of mean ratings provides an absolute measure of importance attributed to the knowledge statements by the various subgroups (e.g., teachers, teacher educators, females). Knowledge statements that meet or go beyond a critical mean value (discussed later in the report) by all relevant

[1]The states within these regions are:
South--Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, Virginia, West Virginia;
Far West--Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, New Mexico, Nevada, Oregon, Utah, Washington, Wyoming;
Northeast--Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont; and
Central--Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, Oklahoma, South Dakota, Wisconsin.

subgroups of respondents may be considered for inclusion in the development of test specifications. Means were also computed for responses to the content coverage and the recommendations for test content sections of the inventory. These mean analyses were computed using the aggregate of the respondents to provide overall indicators of relevance for consideration by test development staff.

Correlation coefficients were computed to determine the extent to which subgroups had similar patterns of mean importance ratings across the knowledge statements. Similar patterns reflect agreement in the relative importance of each knowledge statement. For example, the profile of the 64 mean importance ratings for teachers was correlated with the profile of the 64 mean importance ratings for teacher educators. The greater the similarity between the two profiles, the closer the correlation coefficient value will be to 1.0.

Criteria for selecting content for purposes of test development. To aid the Advisory/Test Development Committee in determining which knowledge areas could be considered for purposes of defining the content domain for a test of Principles of Learning and Teaching and which knowledge areas should not be included, a mean rating of 2.50 was chosen as the cutpoint. The mean of 2.50 is the midpoint between *Moderately Important* and *Important* on the rating scale and is consistent with the intent of content validity, which is to include important knowledge and exclude unimportant knowledge from the assessment measures.

Members of the Advisory/Test Development Committee were advised to consider knowledge areas that received a mean importance rating of 2.50 or higher as eligible for inclusion in the test specifications; knowledge areas that fell below the 2.50 cutpoint were not to be considered for inclusion. However, because survey participants were not involved in the development of the content domain, they may lack certain insights that the Advisory/Test Development Committee members have due to their high level of involvement in the definition of the domain. Consequently, if the committee believed that a knowledge area that did not meet the cutpoint should be included in the specifications, they were requested to provide a compelling and documented rationale for its inclusion.

Results

Response Rate

Of the 1,830 surveys mailed, four were returned not completed due to a variety of reasons (e.g., incorrect address, individual had retired and declined to participate, individual was too busy to participate). Of the remaining 1,826, 820 were completed and returned. Of these 820 surveys, 734 were analyzed; those that were not were either returned after the due date (n=14) or the respondents did not meet the criteria of being a teacher/full-time substitute, teacher educator, school administrator or state administrator (n=72). The overall response rate (including nonusable surveys) was 45% (n=824).

Demographic Characteristics of Respondents

Appendix G shows the numerical distribution of respondents across all the background information categories. The distribution of respondents according to job category was: 48% teachers; 23% college faculty; 26% school administrator; and 3% state administrator. Twenty-eight percent of the respondents came from the South; 24% were from the Far West; 22% were from the Northeast; and 26% were from the Central region of

the country. Fifty-two percent were female; 48% were male. White respondents accounted for 86% of the respondents; 10% were African-American; and 4% were other people of color. Seven percent had five or fewer years of teaching experience; 93% had taught six or more. Thirty percent were elementary school teachers; 38% were middle/junior high school teachers; 24% were secondary/high school teachers; and 8% taught two or more grade levels.

Mean Importance Ratings of Knowledge Statements

The mean importance rating on each knowledge statement for all respondents, broken down by job category (teachers, school administrators, teacher educators), is found in Appendix H[2]. Knowledge statements rated less than 2.50 are identified in boldface on this table. Mean importance ratings were also computed for each of the relevant subgroups. Appendix I displays the knowledge statements that did not meet the 2.50 cutpoint for relevant subgroups of respondents.

Of the 64 knowledge statements on the inventory, 16 statements (25%) fell below the 2.50 cutpoint for one or more relevant subgroups. Nine statements were rated below 2.50 by respondents by job category; seven additional statements were rated below 2.50 by the analyses of other relevant subgroups (e.g., male, less than 5 years of teaching experience). Table 4 shows the total number and percent of statements that fell below 2.50 in each domain. In only one case did subgroups rate a statement less than 2.00: teachers with less than five years of teaching experience rated "Definitions of education held by curricula planners" 1.91 (*Slightly Important*).

Table 4. Number and Percent of Statements below 2.50 by Domain

KNOWLEDGE DOMAIN	NUMBER OF STATEMENTS IN THE DOMAIN	STATEMENTS RATED BELOW 2.50	
		number	percent of the domain
Human Development and the Learning Process	14	1	7%
Knowledge of Curriculum Planning and Design	11	8	73%
Management of the Learning Process	20	0	0%
Assessment and the Learning Process	8	3	38%
Professional Issues Related to Teaching and Learning	11	4	36%

Correlations of the Mean Importance Ratings

Correlation coefficients were computed between relevant subgroups numbering at least 30 to assess the extent of similarity in ratings among relevant subgroups of respondents. The correlation between females (n=379) and males (n=347) was .99. The

[2]State administrators were omitted from this table because they numbered fewer than 30. Analyses were not conducted for subgroups with a membership less than 30.

correlations between Whites (n=624) and African-Americans (n=71) was .95. Between teachers with fewer than five years of teaching experience (n=53) and those with six or more years of experience (n=666), the correlation was .95. The correlations for job category, geographic region, and school level are shown in Tables 5-7. All of the correlations were in the .90s, indicating a high level of agreement in perceived relative importance of the knowledge statements among the various subgroups.

Table 5. Correlations by Job Category

	TEACHER	SCHOOL ADMINIS-TRATOR	TEACHER EDUCATOR
	n=355	n=188	n=167
TEACHER	1.00		
SCHOOL ADMINISTRATOR	.95	1.00	
TEACHER EDUCATOR	.91	.93	1.00

Table 6. Correlations by Geographic Location

	SOUTH n=206	FAR WEST n=173	NORTHEAST n=161	CENTRAL n=186
SOUTH	1.00			
FAR WEST	.98	1.00		
NORTHEAST	.98	.98	1.00	
CENTRAL	.98	.98	.98	1.00

Table 7. Correlations by Teachers' School Level

	ELEMENTARY n=93	MIDDLE n=117	SECONDARY n=74
ELEMENTARY	1.00		
MIDDLE	.95	1.00	
SECONDARY	.93	.98	1.00

Together, the results of the mean and correlational analyses suggest strong support for a core of important knowledge that is relevant for new teachers. As discussed earlier, the test development committee is advised to consider for inclusion in the development of test specifications only those knowledge statements that received a mean importance rating of 2.50 or greater. To include knowledge statements that fall below the cutpoint, the committee is requested to provide compelling written justification.

Content Coverage

Survey respondents were asked to indicate, using a 5-point rating scale, how well each major knowledge domain was covered by the specific knowledge statements. The scale values ranged from a low of 1 (*Very Poorly*) to a high of 5 (*Very Well*); the midpoint

of the scale was a value of 3 (*Adequately*). Table 8 shows the means of these ratings for respondents by job category. All the mean ratings were close to or exceeded 4.00. This analysis indicates that respondents judged all the major knowledge domains to be well covered.

Table 8. Content Coverage of Knowledge Domains

KNOWLEDGE DOMAINS	TEACHERS n=355		SCHOOL ADMINISTRATORS n=188		TEACHER EDUCATORS n=167	
	mean	standard deviation	mean	standard deviation	mean	standard deviation
Human Development and the Learning Process	3.98	.74	4.05	.76	4.23	.77
Curriculum Planning and Design	3.79	.76	4.00	.75	4.08	.76
Management of the Learning Process	4.12	.78	4.32	.69	4.40	.71
Assessment and the Learning Process	3.84	.78	4.06	.76	4.32	.72
Professional Issues Related to Teaching and Learning	3.90	.78	4.04	.74	4.15	.85

Mean Percentage Weights for Test Content Emphasis: Aggregate of Survey Respondents

In addition to asking respondents to rate each knowledge statement, they were asked to indicate how many test questions (out of 100) should be included from each of the knowledge domains. Table 9 shows the mean percentage weights allocated by each job group of respondents. Overall, Management of the Learning Process received the most weight (27.52%). Human Development and the Learning Process (20.90%), Curriculum Planning and Design (20.35%), and Assessment and the Learning Process (19.41%) were very similar in allocated percentages. Professional Issues Related to Teaching and Learning (11.95%) received the lowest number of percentage points. As they set the final test specifications, the Advisory/Test Development Committee should consider the weightings given by respondents.

Table 9. Mean Percentage Weights for Test Content Emphasis[3]

CONTENT DOMAIN	TEACHERS n=343		TEACHER EDUCATORS n=164		SCHOOL ADMINIS-TRATORS n=160		OVERALL MEAN	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Human Development and the Learning Process	19.88	8.73	23.02	9.09	20.36	9.30	**20.90**	**8.97**
Curriculum Planning and Design	20.30	7.83	20.88	6.46	19.66	7.18	**20.35**	**7.25**
Management of the Learning Process	28.18	10.27	24.89	7.19	29.51	9.68	**27.52**	**9.38**
Assessment and the Learning Process	19.31	6.46	18.95	5.98	19.74	7.61	**19.41**	**6.50**
Professional Issues Related to Teaching and Learning	12.35	6.44	12.37	4.88	10.88	5.00	**11.95**	**5.86**

Summary

A job analysis was conducted to define the knowledge domain of general principles of teaching and learning necessary for newly licensed (certified) teachers, regardless of grade level or subject matter taught, to perform their jobs in a competent manner. The results of the study are being used to develop test specifications for the Principles of Learning and Teaching assessment of The Praxis Series: Professional Assessments for Beginning Teachers™.

An initial draft of the knowledge inventory was developed by ETS test development and research staff with expertise in general pedagogy, human growth and development, and learning theory. This draft was reviewed by an External Review Panel of teachers, teacher educators, school administrators, and state department officials. The educators provided useful comments about content and format, which were incorporated into the initial draft of the inventory. An Advisory/Test Development Committee reviewed and revised this second draft of the inventory. The knowledge inventory was then sent in a large-scale survey form to 921 teachers, 422 teacher educators, 425 school administrators, and 53 state administrators, who were asked to rate the individual knowledge statements using a 5-point importance scale.

Three types of analyses were conducted: (1) frequency distributions across background information categories (e.g., sex, years of teaching experience, grade level); (2) mean importance ratings by relevant subgroups; and (3) correlations of mean

[3]Rounded, the sum of percentages may not equal 100 because some respondents wrote in totals that were greater than or less than 100.

importance ratings within relevant subgroups. A cutpoint of 2.50 (midway between *Moderately Important* and *Important*) was set to differentiate between important knowledge and unimportant knowledge for purposes of test development. Knowledge statements that received a mean rating of less than 2.50 by any of the relevant subgroups of respondents (job category; geographic location; race/ethnicity; sex; school level; years of teaching experience) were identified. Test development staff were advised to use knowledge statements that fell above the 2.50 cutpoint for purposes of setting test specifications. However, if it was determined that the inclusion of particular knowledge statements that fell below 2.50 was necessary, then the Advisory/Test Development Committee was requested to provide a written and compelling rationale for the inclusion of the statements.

Sixteen knowledge statements (25%) proved problematic to one or more of the designated subgroups; that is, subgroups rated the statement below the cutpoint of 2.50. These 16 knowledge statements are shown in Table 10. Before they may be used in test specifications, these knowledge areas need written rationales from the Advisory/Test Development Committee. Without qualification, 75% (n=48) of the knowledge areas may be used to develop test specifications.

Table 10. Knowledge Statements that Failed to Meet the 2.50 Cutpoint

DOMAIN A: HUMAN DEVELOPMENT AND THE LEARNING PROCESS	
12	linguistic factors that influence student learning
DOMAIN B: CURRICULUM PLANNING AND DESIGN	
16	social and political conditions that influence teacher decision making
17	social and political forces that influence teacher decision making
18	social, political, and historical events that influence curricula planning
22	definitions of education held by curricula planners
23	processes of curriculum/program development
24	processes of curricular materials selection and evaluation
25	different models of curricula
26	learning trends influencing models of curricula
DOMAIN D: ASSESSMENT AND THE LEARNING PROCESS	
49	methods for gathering background information
54	measurement concepts
55	evaluation issues
DOMAIN E: PROFESSIONAL ISSUES RELATED TO TEACHING AND LEARNING	
60	political issues that affect education
62	issues related to employment
67	roles and functions of professional organizations
68	professional literature for teachers

The knowledge statements that were identified to be important by the surveyed educators should be used as the foundation for the development of test specifications. Test specifications that are linked to the results of a job analysis provide support for the content validity of the derived assessment measures and may be considered as part of an initial step in ensuring the fairness of the derived assessment measures to subgroups of teacher candidates. It is reasonable to assume that, due to testing and psychometric constraints (e.g., time limits, ability to measure some content reliably), not all of the identified content may be included on assessment measures. One source of information that may be used to guide the test development committee in their decision of what content to include on the assessment measures is the mean importance rating. Although a rank ordering of the content by mean importance rating is not implied, it is recommended that initial consideration be given to content that is well above the cutpoint and represents the

appropriate breadth of content coverage. Should the test development committee find it necessary to use content rated below the cutpoint, then they should provide a written and compelling rationale for the use of such content.

Correlations for relevant subgroups were in the .90s, which suggests that there is substantial agreement among various subgroups of teachers with respect to the relative importance of the knowledge needed by newly licensed school teachers in the domain of general principles of teaching and learning.

Evidence was also provided in this study of how well each domain was covered by the specific knowledge statements. The results suggest that all of the domains were judged to be well covered by the specific knowledge statements. Additionally, suggestions were offered regarding the relative weights each domain should receive in test specifications for the Praxis II assessment of Principles of Learning and Teaching.

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Appendix D

Job Analysis Inventory of General Principles of Teaching and Learning

JOB ANALYSIS INVENTORY

OF GENERAL PRINCIPLES

OF TEACHING

AND LEARNING

By

Educational Testing Service
Princeton, New Jersey

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PART I – INTRODUCTION

Educational Testing Service (ETS) is developing a new generation of assessments for the purpose of licensing (certifying) teachers. The inventory that follows is part of our development effort and is designed to gather information concerning the entry-level teacher's job, regardless of the subject matter or grade level taught. It was developed by teachers, college faculty, and state department of education officials, along with ETS staff.

The inventory asks you to respond to a list of knowledge statements and to rate each statement as to its importance for a newly licensed (certified) teacher. Please do not relate each statement to your own job but rather to what you believe an entry-level teacher should know, regardless of the subject matter or grade level taught.

The information you provide will guide the development of the General Principles of Teaching and Learning examination offered in the new generation of teacher assessments. It is expected that the new examination will differ from the current examination in both content and design. In addition to the development of a new examination, this study will also contribute to our understanding of education as a profession. We expect the results of the study to be widely disseminated and to have ramifications for teacher preparation.

The inventory has been mailed to a sample of approximately 2,200 professionals. Its value is directly related to the number of individuals who return their completed inventories. Because you represent a large number of professionals, your responses are extremely important. Please take the time to complete and return the inventory. Thank you.

PART II – INVENTORY OF KNOWLEDGE OF GENERAL PRINCIPLES OF TEACHING AND LEARNING

This section focuses on the knowledge of general principles of teaching and learning that teachers draw on as they perform their work. On the following pages you will find five broad domains:

A. **Human Development and the Learning Process**

B. **Curriculum Planning and Design**

C. **Management of the Learning Process**

D. **Assessment and the Learning Process**

E. **Professional Issues Related to Teaching and Learning**

Within each domain is a list of topics. For each topic you will be asked to make your judgment using the following scale:

Regardless of subject matter or grade level taught, how important is it for a newly licensed (certified) teacher to know the following in order to perform his/her job in a competent manner?

(0) Not important
(1) Slightly important
(2) Moderately important
(3) Important
(4) Very important

To familiarize yourself with the domains and topics, you may wish to glance through the inventory before making your rating judgments.

Regardless of subject matter or grade level taught, how important is it for a newly licensed (certified) teacher to know the following in order to perform his/her job in a competent manner?

(0) Not important
(1) Slightly important
(2) Moderately important
(3) Important
(4) Very important

A. HUMAN DEVELOPMENT AND THE LEARNING PROCESS — IMPORTANCE

The following statements refer to knowledge of human growth and development of all students. It is assumed that development is an integrative process that is influenced by contextual factors.

1. Understand major theories of human development and learning from prenatal to adulthood stages (e.g., constructivist, developmental, behavioral, social learning, cognitive mediational) 0 1 2 3 4

Understand stages/patterns of development

2. Cognitive development (e.g., logical reasoning, perception, information processing, situated cognition) 0 1 2 3 4
3. Physical development (e.g., gross and fine motor development, visual discrimination, auditory discrimination) 0 1 2 3 4
4. Affective development (e.g., self-concept and self-esteem, motivation to learn) 0 1 2 3 4
5. Social development (e.g., social conventions and judgments, play behavior) 0 1 2 3 4
6. Language acquisition and development (e.g., phonology, syntax, semantics, conventions of print, conventions of language) 0 1 2 3 4

Understand factors that influence the development of students' world views, actions, and learning styles

7. Biological (e.g., gender, age, physical stature) 0 1 2 3 4
8. Familial (e.g., parental child-rearing attitudes, sibling relationships, birth order, single parent families) 0 1 2 3 4
9. Social/economic (e.g., socio-economic status, homelessness) 0 1 2 3 4
10. Nutritional/hygienic (e.g., the effects of diet and eating behaviors, sleep patterns, exercise, immunization, neglect, abuse, fetal alcohol syndrome) 0 1 2 3 4

Regardless of subject matter or grade level taught, how important is it for a newly licensed (certified) teacher to know the following in order to perform his/her job in a competent manner?

(0) Not important
(1) Slightly important
(2) Moderately important
(3) Important
(4) Very important

A. HUMAN DEVELOPMENT AND THE LEARNING PROCESS (cont.) — **IMPORTANCE**

11. Cultural (e.g., the effects of the dominant cultural values; the effects of regional, ethnic, and religious influences; the role of primary transmitters of culture) 0 1 2 3 4

12. Linguistic (e.g., differences between home language and school language, regional dialects) 0 1 2 3 4

13. Educational context (e.g., changes in student behavior in response to student, parent, and teacher expectations; school climate; students' out-of-school experiences) 0 1 2 3 4

14. Understand how one's own world view, actions, and teaching styles are influenced by factors such as cultural background, personal experiences, and physical characteristics 0 1 2 3 4

15. How well do the statements in section A cover the important aspects of **Human Development and the Learning Process**?

1	2	3	4	5
Very Poorly	Poorly	Adequately	Well	Very Well

What important aspects, if any, are not covered?

_____

_____

Regardless of subject matter or grade level taught, how important is it for a newly licensed (certified) teacher to know the following in order to perform his/her job in a competent manner?

(0) Not important
(1) Slightly important
(2) Moderately important
(3) Important
(4) Very important

B. KNOWLEDGE OF CURRICULUM PLANNING AND DESIGN — IMPORTANCE

The following statements refer to knowledge of influences on teachers' curricular choices. It is assumed that teachers are thoughtful professionals who draw upon a vast array of information in making both short- and long-term decisions.

Understand how curricula reflect the larger society

16. Social and political conditions (e.g., how society influences and has influenced what knowledge and materials are valued) 0 1 2 3 4
17. Social and political forces that influence teacher decision-making (e.g., censorship, state textbook adoption lists, gendered language) 0 1 2 3 4
18. Social, political, and historical events that have influenced curricula planning (e.g., effects of technology on vocational and general education, changing national demographics, Sputnik, the Industrial Revolution) 0 1 2 3 4

Understand factors to be considered in planning curricula

19. Relationship of learning activities, modes of delivery, instructional pacing, etc., to characteristics of learners 0 1 2 3 4
20. Characteristics of the school population (e.g., rural *vs.* urban, cultural/ethnic differences) 0 1 2 3 4
21. Current trends and research findings in education (e.g., magnet schools, whole language, inquiry approach) 0 1 2 3 4
22. Philosophical underpinnings and definitions of education held by curricula planners at various levels 0 1 2 3 4
23. Processes of curriculum/program development, implementation, evaluation, and revision 0 1 2 3 4
24. Processes of curricular materials selection and evaluation (e.g., textbook evaluation and adoption procedures) 0 1 2 3 4

Regardless of subject matter or grade level taught, how important is it for a newly licensed (certified) teacher to know the following in order to perform his/her job in a competent manner?

(0) Not important
(1) Slightly important
(2) Moderately important
(3) Important
(4) Very important

B. CURRICULUM PLANNING AND DESIGN (cont.) **IMPORTANCE**

Understand models of curricula

25. Differentiating characteristics of various models of curricula (e.g., scope and sequence, spiral, integrative) 0 1 2 3 4

26. Learning trends influencing models of curricula (e.g., process approach) 0 1 2 3 4

27. How well do the statements in section B cover the important aspects of **Curriculum Planning and Design**?

1	2	3	4	5
Very Poorly	Poorly	Adequately	Well	Very Well

What important aspects, if any, are not covered?

_____

_____

C. MANAGEMENT OF THE LEARNING PROCESS **IMPORTANCE**

The following statements refer to pedagogical theories and principles that affect the teacher's pedagogical choices as they interact with students.

Understand how to structure lessons based on

28. The needs and characteristics of diverse populations 0 1 2 3 4

29. Knowledge, experience, skills, strategies, and interests that students know and need to know in relation to the curriculum and instructional objectives 0 1 2 3 4

30. Instructional objectives, including methods for modifying instructional objectives to accommodate student characteristics and learner development 0 1 2 3 4

31. Motivational techniques 0 1 2 3 4

Regardless of subject matter or grade level taught, how important is it for a newly licensed (certified) teacher to know the following in order to perform his/her job in a competent manner?

(0) Not important
(1) Slightly important
(2) Moderately important
(3) Important
(4) Very important

C. MANAGEMENT OF THE LEARNING PROCESS (cont.)	IMPORTANCE
32. Resources and materials appropriate for each content area	0 1 2 3 4
33. Evaluation plans to assess student progress and effectiveness of instructional procedures	0 1 2 3 4
Understand various techniques to adjust instruction to reflect on-going decision-making	
34. Grouping for instruction (e.g., interest, ability, size)	0 1 2 3 4
35. Adjustments based on students' changing interests, relevant materials, local news, or events	0 1 2 3 4
36. Adjustments based on informal diagnosis of students' achievement and progress toward objectives	0 1 2 3 4
37. Repertoire of teaching strategies that allow for flexible delivery of instruction (e.g., teacher-directed instruction, cooperative/collaborative learning, independent study, laboratory/hands-on approaches)	0 1 2 3 4
Understand management techniques and how they influence instruction	
38. Use of space (e.g., learning centers, writing labs, math labs, workshops, computer labs)	0 1 2 3 4
39. Allocation of time for instructional activities, including transition times	0 1 2 3 4
40. Attention to and structuring of climate for learning (e.g., attention to interpersonal relations, motivational strategies, questioning techniques)	0 1 2 3 4
41. Classroom and school expectations, rules, routines, and procedures	0 1 2 3 4
42. Dynamics of interpersonal relationships: teacher-student, student-student, group cohesiveness, teacher-parent, teacher-teacher, etc.	0 1 2 3 4
43. Appropriate teacher behaviors in response to individual and cultural diversity	0 1 2 3 4
44. Nonverbal communication skills (e.g., manner, movement, eye contact)	0 1 2 3 4
45. Operation and use of electronic media (e.g., computers, videotape players, overhead projectors)	0 1 2 3 4

Regardless of subject matter or grade level taught, how important is it for a newly licensed (certified) teacher to know the following in order to perform his/her job in a competent manner?

(0) Not important
(1) Slightly important
(2) Moderately important
(3) Important
(4) Very important

C. MANAGEMENT OF THE LEARNING PROCESS (cont.) **IMPORTANCE**

46. Use of different styles of discipline to promote student learning and behavior management, including methods to encourage desirable and discourage undesirable student behavior 0 1 2 3 4

47. Appropriate use of out-of-school external resources (e.g., persons, field trips, community) 0 1 2 3 4

48. How well do the statements in section C cover the important aspects of **Management of the Learning Process**?

1	2	3	4	5
Very Poorly	Poorly	Adequately	Well	Very Well

What important aspects, if any, are not covered?

_____

_____

D. ASSESSMENT AND THE LEARNING PROCESS **IMPORTANCE**

The following statements refer to the knowledge and strategies teaches use as they assess students' achievement.

Understand the advantages and disadvantages of various types of assessment instruments and procedures

49. Methods for gathering background information (e.g., cumulative folders, interviews, conferences, medical records, standardized tests) 0 1 2 3 4

50. Use of student learning tasks/products as diagnostic aids and for making qualitative assessments of student work (e.g., essays and other writing tasks, performances, informal reading inventories, oral discussions and reports, portfolios) 0 1 2 3 4

Regardless of subject matter or grade level taught, how important is it for a newly licensed (certified) teacher to know the following in order to perform his/her job in a competent manner?

(0) Not important
(1) Slightly important
(2) Moderately important
(3) Important
(4) Very important

D. ASSESSMENT AND THE LEARNING PROCESS (cont.)	IMPORTANCE
51. Methods for establishing multiple records of evidence of student progress (e.g., anecdotal records, observations, checklists, student journals, survey instruments, videotapes, student self-evaluations, parent comments)	0 1 2 3 4
52. Methods for gathering quantitative data about student learning/achievement (e.g., standardized achievement tests, teacher-made tests, commercial criterion-referenced tests)	0 1 2 3 4
53. Teacher self-evaluation as a means to enhance instructional effectiveness (e.g., videotapes, portfolios of teaching artifacts, teaching logs/journals, peer observations, student and parent feedback)	0 1 2 3 4
Understand the basic issues and concepts related to the appropriate interpretation and use of assessment data	
54. Measurement concepts (e.g., validity, reliability, standardization, norm-referenced and criterion-referenced measurement)	0 1 2 3 4
55. Evaluation issues (e.g., non-discriminatory evaluation, inappropriate use of screening tests, overinterpretation, bias, test misuse)	0 1 2 3 4
56. Methods for clear interpretation, reporting, and communication of data to various populations: student, parent, and administrators	0 1 2 3 4

57. How well do the statements in section D cover the important aspects of **Assessment and the Learning Process**?

1	2	3	4	5
Very Poorly	Poorly	Adequately	Well	Very Well

What important aspects, if any, are not covered?

_____

_____

Regardless of subject matter or grade level taught, how important is it for a newly licensed (certified) teacher to know the following in order to perform his/her job in a competent manner?

(0) Not important
(1) Slightly important
(2) Moderately important
(3) Important
(4) Very important

E. PROFESSIONAL ISSUES RELATED TO TEACHING AND LEARNING — IMPORTANCE

The following statements refer to the teacher's understanding of professional issues that affect teaching and learning.

Understand issues affecting education

58. Social issues (e.g., substance abuse, teenage pregnancy, child abuse, homelessness, latchkey children, changing structure of the family) 0 1 2 3 4

59. School-related issues (e.g., school restructuring, school-based management plans, working in multidisciplinary teams, problems new teachers face, such as alienation and anxiety) 0 1 2 3 4

60. Political issues (e.g., school board elections, budgets, voucher systems) .. 0 1 2 3 4

61. Schools' legal responsibilities to special populations as determined by federal law (e.g., PL 94-142, services for students with limited English proficiency, Title I/Chapter I) 0 1 2 3 4

62. Issues related to employment (e.g., selection, promotion, tenure, termination) 0 1 2 3 4

Understand legal rights and responsibilities of teachers, students, and schools

63. Teachers' legal rights inside and outside of the classroom, including rights based on federal law (e.g., due process, free speech, freedom from discrimination) 0 1 2 3 4

64. Students' legal rights inside and outside of the classroom, including rights based on federal law (e.g., Family Privacy Act, due process, free speech, freedom from discrimination) 0 1 2 3 4

65. Regulations and practices based on federal law (e.g., *Brown* vs. *the Board of Education of Topeka*, separation of church and state) 0 1 2 3 4

Regardless of subject matter or grade level taught, how important is it for a newly licensed (certified) teacher to know the following in order to perform his/her job in a competent manner?

(0) Not important
(1) Slightly important
(2) Moderately important
(3) Important
(4) Very important

E. PROFESSIONAL ISSUES RELATED TO TEACHING AND LEARNING (cont.) — **IMPORTANCE**

Understand the professional resources available to teachers

66. Roles and functions of school-related personnel (e.g., nurse, school psychologist, administrators, master/mentor teachers, outside agencies) . . 0 1 2 3 4

67. Roles and functions of professional organizations in education (e.g., National Education Association, American Federation of Teachers, Parent-Teacher Association) 0 1 2 3 4

68. Professional literature for teachers 0 1 2 3 4

69. How well do the statements in section E cover the important aspects of **Professional Issues Related to Teaching and Learning**?

1	2	3	4	5
Very Poorly	Poorly	Adequately	Well	Very Well

What important aspects, if any, are not covered?

_____

_____

PART III – ADDITIONAL COMMENTS

Please use this space to list any important **KNOWLEDGE DOMAINS** that you believe were **NOT** included in this inventory. Also, use the space for any additional comments about the inventory itself.

PART IV – RECOMMENDATIONS FOR TEST CONTENT

Listed below are the five content domains that may be covered on the new General Principles of Teaching and Learning examination. If the examination were to contain 100 questions, how many questions do you believe should be included from each content domain?

Please indicate your response using whole numbers (no fractions). If you believe a content domain should not be included in the examination, put a 0 in the space provided. Please make sure that your responses sum to 100.

CONTENT DOMAIN	NUMBER OF EXAM QUESTIONS (out of 100)
A. HUMAN DEVELOPMENT AND THE LEARNING PROCESS	_____
B. CURRICULUM PLANNING AND DESIGN	_____
C. MANAGEMENT OF THE LEARNING PROCESS	_____
D. ASSESSMENT AND THE LEARNING PROCESS	_____
E. PROFESSIONAL ISSUES RELATED TO TEACHING AND LEARNING	_____
	TOTAL = 100

PART III - BACKGROUND INFORMATION

The information that you provide in this section is completely confidential and will be used for research purposes only. Please answer the questions by circling the number that most closely describes you or your professional activities. Unless otherwise indicated, please cirele only one response for each question.

70. Where do you work?

1. Alabama
2. Alaska
3. Arizona
4. Arkansas
5. California
6. Colorado
7. Connecticut
8. Delaware
9. District of Columbia
10. Florida
11. Georgia
12. Hawaii
13. Idaho
14. Illinois
15. Indiana
16. Iowa
17. Kansas
18. Kentucky
19. Louisiana
20. Maine
21. Maryland
22. Massachusetts
23. Michigan
24. Minnesota
25. Mississippi
26. Missouri
27. Montana
28. Nebraska
29. Nevada
30. New Hampshire
31. New Jersey
32. New Mexico
33. New York
34. North Carolina
35. North Dakota
36. Ohio
37. Oklahoma
38. Oregon
39. Pennsylvania
40. Puerto Rico
41. Rhode Island
42. South Carolina
43. South Dakota
44. Tennessee
45. Texas
46. Utah
47. Vermont
48. Virginia
49. Washington
50. West Virginia
51. Wisconsin
52. Wyoming

71. Which of the following best describes the area in which you practice?

1. Urban
2. Suburban
3. Rural

72. What is your age?

1. Under 25
2. 25-34
3. 35-44
4. 45-54
5. 55-64
6. 65 and over

(THE SURVEY CONTINUES ON THE NEXT PAGE.)

73. What is your sex?

1. Female
2. Male

74. How do you describe yourself?

1. American Indian, Inuit, or Aleut
2. Asian, Asian American, or Pacific Islander
3. Black or African American
4. Mexican American or Chicano
5. Puerto Rican
6. Latin American, South American, Central American, or other Hispanic
7. White
8. Combination (please specify) _____
9. Other (please specify) _____

75. What is the highest professional degree you hold?

1. Less than a bachelor's
2. Bachelor's
3. Bachelor's + additional credits
4. Master's or equivalent
5. Master's + additional credits
6. Doctorate

76. Which of the following <u>best</u> describes your current employment status?

1. Temporary substitute (assigned on a daily basis)
2. Permanent substitute (assigned on a longer term basis)
3. Regular teacher (not a substitute)
4. Principal or assistant principal
5. School administrator
6. Curriculum supervisor
7. State administrator
8. College faculty
9. Other (please specify)_____

(THE SURVEY CONTINUES ON THE NEXT PAGE.)

77. Which of the following best describes the type of school in which you teach? (Circle all that apply)?

1. Elementary
2. Middle
3. Junior high
4. Senior high
5. Comprehensive secondary (7-12)
6. College/university
7. Do not currently teach -- administrator/supervisor
8. Do not currently teach -- retired
9. Other (please specify)_____

78. Which of the following areas best describes your primary teaching assignment?

1. All or most elementary school subjects
2. All or most middle school subjects
3. Special education for handicapped or other exceptional students, including the gifted and talented
4. Arts (e.g., visual arts, music, theater)
5. Language arts and communication (e.g., English, foreign language, speech, literature)
6. Mathematics and computer science (e.g., arithmetic, logic, statistics)
7. Physical and biological sciences (e.g., general science, biology, physics, chemistry, geology)
8. Social sciences (e.g., social studies, psychology, sociology, economics, history, government)
9. Home economics
10. Business and vocational education (e.g., accounting, shop, craft skills, agriculture)
11. Health and physical education
12. Curriculum and instruction
13. Counseling/educational psychology
14. Educational foundations
15. Do not currently teach -- administrator supervisor
16. Do not currently teach -- retired
17. Other (please specify) _____

(THE SURVEY CONTINUES ON THE NEXT PAGE.)

79. What grade(s) are you currently teaching? (Circle ALL that apply.)

1. Preschool
2. Kindergarten
3. First
4. Second
5. Third
6. Fourth
7. Fifth
8. Sixth
9. Seventh
10. Eighth
11. Ninth
12. Tenth
13. Eleventh
14. Twelfth
15. Undergraduate
16. Graduate
17. Do not currently teach -- administrator/supervisor
18. Do not currently teach -- retired
19. Other (please specify) _____

80. How many years, including the current school year, have you been teaching?

1. Less than a year
2. 1 to 2 years
3. 3 to 5 years
4. 6 to 10 years
5. 11 to 15 years
6. 16 to 20 years
7. 21 or more years
8. Never taught

THANK YOU FOR PARTICIPATING IN THIS STUDY. PLEASE RETURN THE SURVEY WITHIN 10 DAYS IN THE ENCLOSED ENVELOPE.

Appendix E

Cover Letter to Survey Participants

EDUCATIONAL TESTING SERVICE PRINCETON, N.J. 08541

609 921-9000
CABLE EDUCTESTSVC

DIVISION OF COGNITIVE
AND ASSESSMENT RESEARCH

October, 1990

Dear Colleague:

I am writing to ask your cooperation in a study that should be of importance to teachers, college faculty, administrators, and other professionals in the field of education. As you are undoubtedly aware, the profession is receiving increasing national press as new plans and programs are proposed for assessing teaching. Our response to this call for improvements is to revamp the existing teacher assessment tests (called the NTE) offered by Educational Testing Service.

One of the steps we're taking in this renovation project is to conduct a series of studies that looks closely at the knowledge and skills beginning teachers need in order to be licensed (certified). In some of our studies, we've asked respondents to share their judgments about important enabling skills (e.g., reading comprehension), tasks of teaching (e.g., lesson planning), and knowledge and skills specific to teaching particular subject areas (e.g., mathematics and how to teach mathematics). In this study, we're trying to define knowledge of general principles of teaching and learning that may be important for all teachers to know, regardless of their grade level or subject matter.

The enclosed inventory has been constructed as a way to solicit your judgments on the importance of these areas for the newly licensed (certified) teacher. As part of the inventory developmental process, ETS has worked closely with teachers, college faculty, and school administrators to identify potentially important knowledge areas that cross all content fields and grade levels. Your opinion is very important. Since we are sampling only 2,200 professionals, the value of this survey is directly related to the number of responses we get. Your responses are confidential. The inventory request for background information about you is solely for purposes of describing this study's respondents.

A postage-paid envelope is enclosed for the return of your completed questionnaire. Please return the questionnaire within ten days. If you have any questions about the study or about your participation in it, feel free to call me collect at (609) 921-9000 Ext. 5795. Thank you for your time and participation in this important project.

Cordially,

Anne Reynolds

Anne Reynolds, Ph.D.
Associate Research Scientist

Enclosures (2)

Appendix F

Follow-up Postcard

INVENTORY OF GENERAL PRINCIPLES OF TEACHING AND LEARNING

Dear Colleague:

I recently sent you an inventory to obtain your opinions of what a newly licensed teacher should know and be able to do. If you have not already done so, please complete the inventory and return it in the postage-paid envelope to:

Educational Testing Service, 16-R
Princeton, NJ 08541

If you have already returned the inventory, please accept my thanks for your help in this important project.

Sincerely,

Anne Reynolds

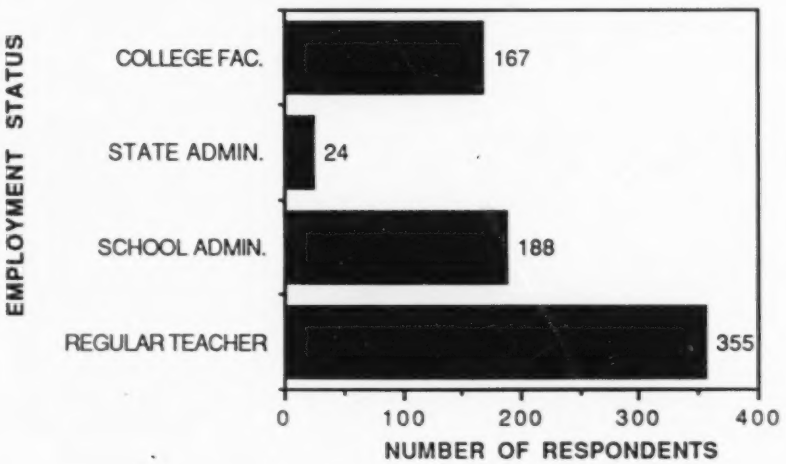
Anne Reynolds, Ph.D.
Associate Research Scientist

Appendix G

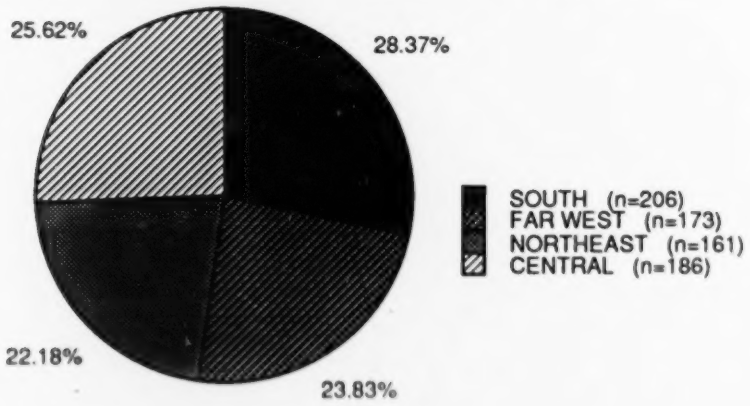
Demographic Characteristics of the Respondents

NOTE: Some totals sum to less than 734, the total number of surveys analyzed. On these particular background questions some respondents gave multiple responses and others gave no response. These two types of responses were omitted from the analyses.

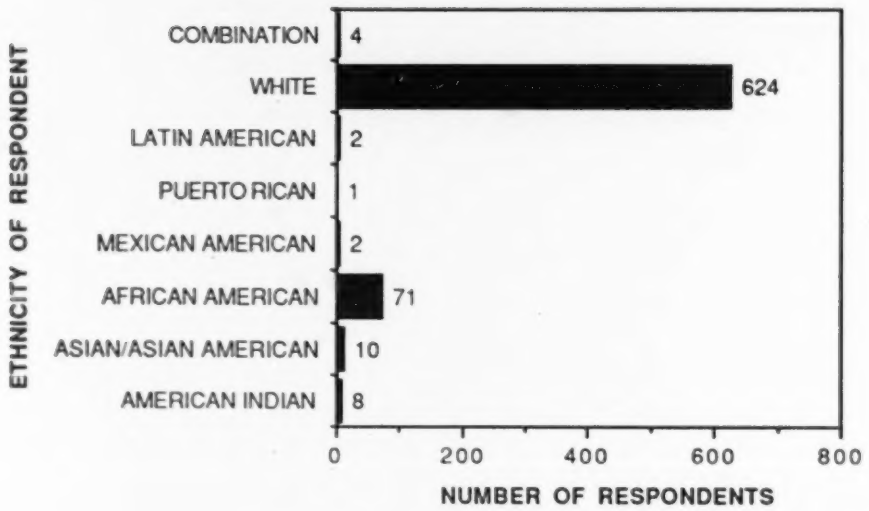
Respondents by Job Category



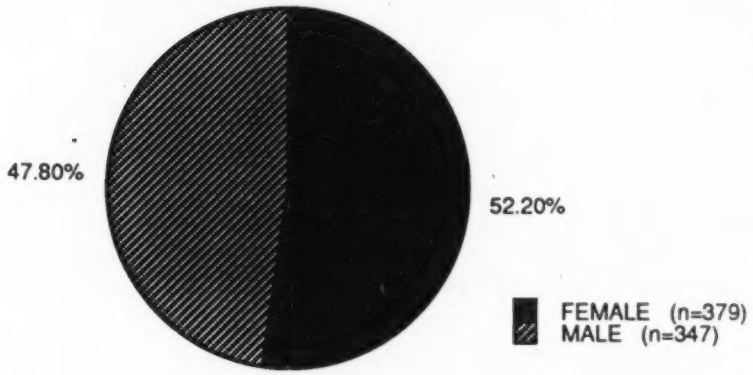
Respondents by Geographic Location



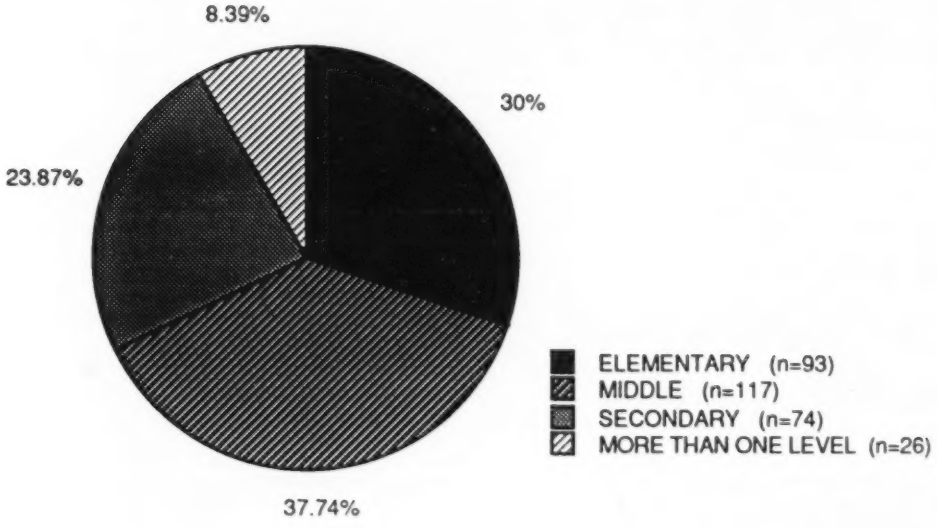
Respondents by Ethnicity



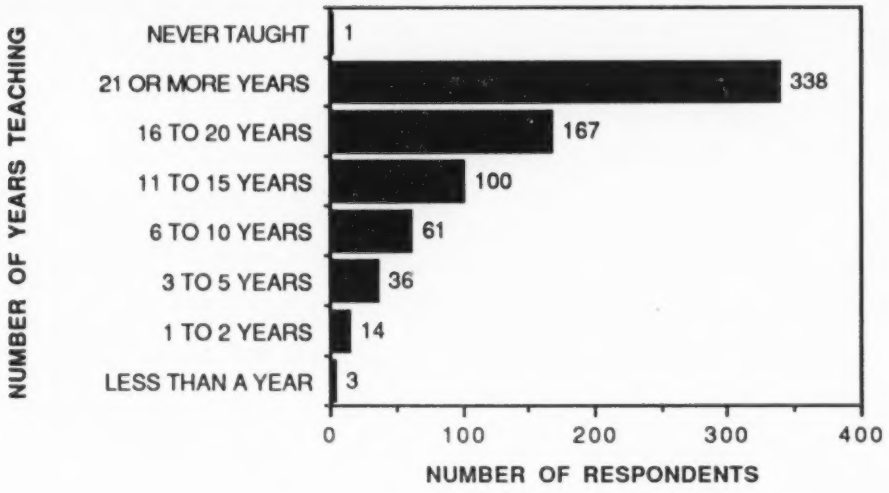
Respondents by Sex



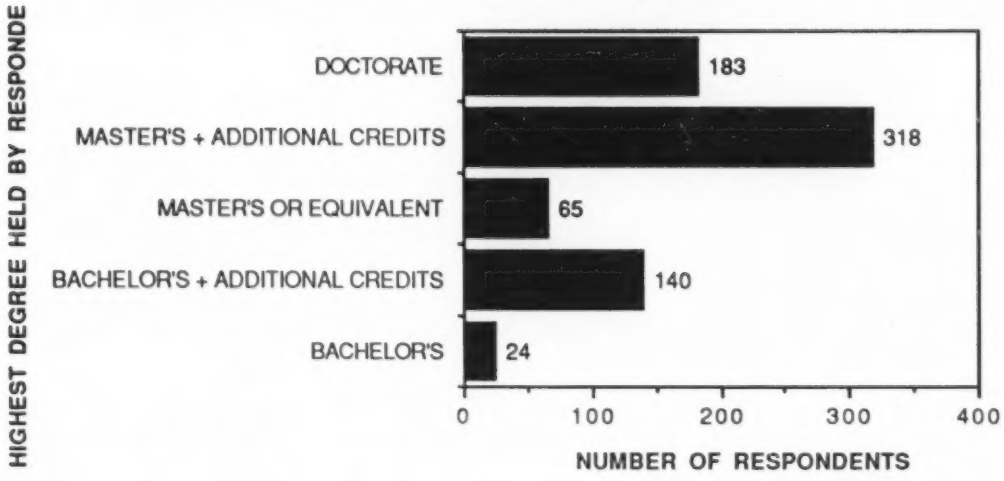
Teachers by School Level



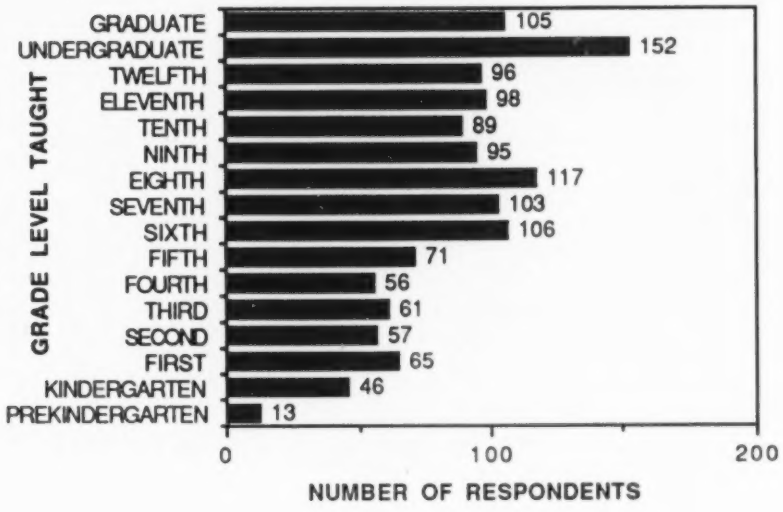
Respondents by Years of Teaching Experience



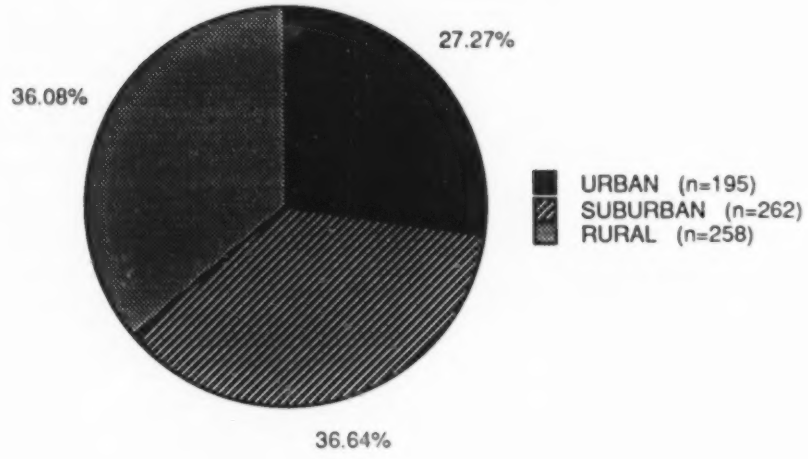
Respondents by Highest Degree Held



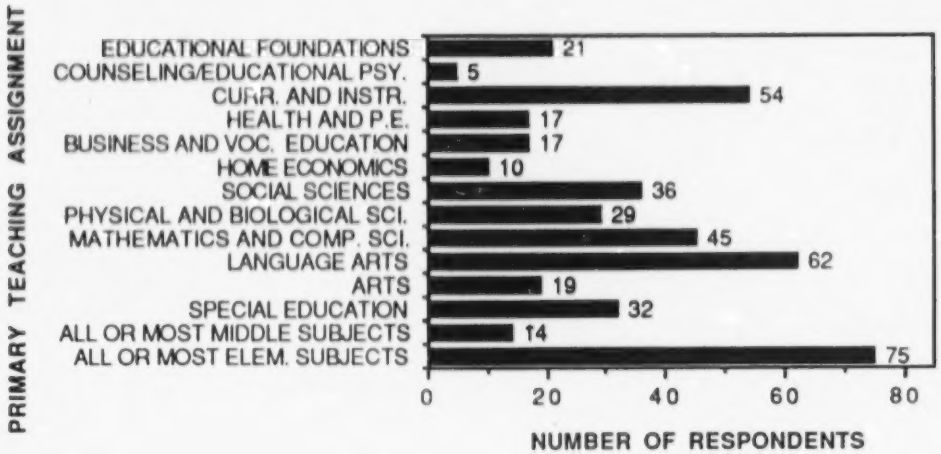
Respondents by Grade Level Taught



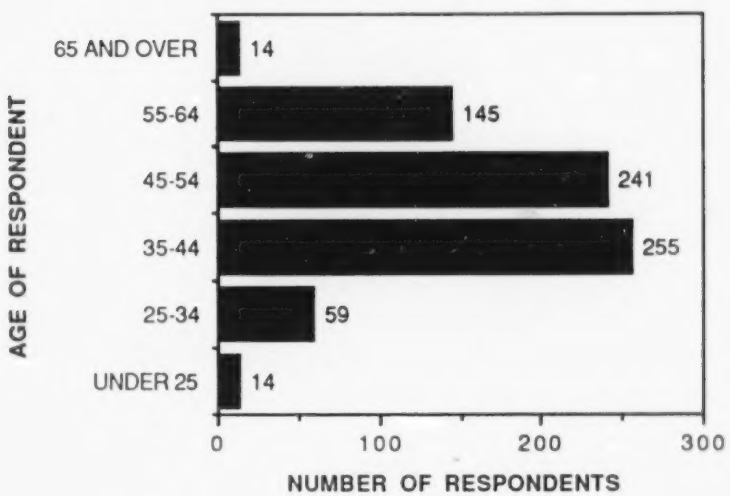
Respondents by School Location



Respondents by Subject Area Taught



Respondents by Age



Appendix H

Means by Job Category

NOTE: This table includes respondents who considered themselves teachers (elementary, middle, secondary, and those who teach more than one school level), school administrators (school administrators, curriculum supervisors, and principals/asst. principals), and teacher educators. The respondents do not include people who indicated that they were retirees or temporary substitutes. The table also does not include people who indicated that they were state administrators, because this group numbered fewer than 30.

NOTE: * denotes content coverage questions for which a 5 point scale was used: 1=Very Poorly; 2=Poorly; 3=Adequately; 4=Well; 5=Very Well.

QUESTION		TEACHERS n=355	SCHOOL ADMINIS-TRATORS n=188	TEACHER EDUCATORS n=167
DOMAIN A: HUMAN DEVELOPMENT AND THE LEARNING PROCESS				
1	stages of human development and learning	2.82	3.10	3.20
2	cognitive development stages/patterns	3.09	3.38	3.60
3	physical development stages/patterns	2.95	3.20	3.23
4	affective development stages/patterns	3.38	3.70	3.60
5	social development stages/patterns	3.07	3.22	3.36
6	language acquisition and development stages/patterns	2.89	3.06	3.40
7	biological factors that influence student learning	2.63	2.83	2.94
8	familial factors that influence student learning	2.75	2.93	3.05
9	social/economic factors that influence student learning	2.79	2.99	3.23
10	nutritional/hygienic factors that influence student learning	2.98	3.04	3.05
11	cultural factors that influence student learning	2.66	2.89	3.38
12	linguistic factors that influence student learning	2.56	2.65	3.07
13	educational contexts that influence student learning	3.03	3.26	3.33
14	how one's own world view is influenced by various factors	2.93	3.18	3.46
15*	**CONTENT COVERAGE OF HUMAN DEVELOPMENT AND THE LEARNING PROCESS**	3.98	4.05	4.23

QUESTION		TEACHERS n=355	SCHOOL ADMINISTRATORS n=188	TEACHER EDUCATORS n=167
DOMAIN B: CURRICULUM PLANNING AND DESIGN				
16	social and political conditions that influence teacher decision making	**2.48**	2.72	2.99
17	social and political forces that influence teacher decision making	2.54	2.62	3.04
18	social, political, and historical events that influence curricula planning	**2.46**	2.56	2.86
19	relationships of instructional activities to learner characteristics	3.47	3.62	3.68
20	characteristics of the school population	2.90	2.94	3.26
21	current trends and research findings in education	2.78	3.24	3.13
22	definitions of education held by curricula planners	**2.12**	**2.40**	2.72
23	processes of curriculum/program development	2.69	2.84	2.99
24	processes of curricular materials selection and evaluation	2.63	2.62	2.88
25	different models of curricula	**2.40**	2.70	2.77
26	learning trends influencing models of curricula	**2.46**	2.90	2.99
27*	CONTENT COVERAGE OF CURRICULUM PLANNING AND DESIGN	3.79	3.99	4.07

	QUESTION	TEACHERS n=355	SCHOOL ADMINIS-TRATORS n=188	TEACHER EDUCATORS n=167
DOMAIN C: MANAGEMENT OF THE LEARNING PROCESS				
28	how to structure lessons based on needs and characteristics of diverse learners	2.91	3.22	3.52
29	how to structure lessons based on students' prior knowledge	3.24	3.34	3.54
30	how to structure lessons based on instructional objectives	3.33	3.61	3.59
31	how to select motivational techniques	3.72	3.85	3.69
32	how to select appropriate resources	3.31	3.37	3.44
33	how to structure evaluation plans	3.35	3.54	3.60
34	grouping for instruction	3.14	3.29	3.22
35	adjustments based on students' interests, materials, etc.	2.94	3.16	3.28
36	adjustments based on informal diagnosis of students' progress	3.10	3.37	3.46
37	repertoire of teaching strategies	3.58	3.79	3.82
38	use of space	2.93	3.11	3.14
39	allocation of time for instructional activities	3.09	3.36	3.32
40	climate for learning	3.38	3.68	3.59
41	classroom and school expectations, rules, routines, and procedures	3.27	3.39	3.29
42	dynamics of interpersonal relationships	3.31	3.55	3.56
43	teacher behaviors appropriate to individual and cultural diversity	3.16	3.36	3.58
44	nonverbal communication skills	3.21	3.34	3.27
45	operation and use of electronic media	2.91	2.92	2.94
46	different disciplinary styles	3.63	3.73	3.69
47	use of out-of-school external resources	2.70	2.76	2.74
48*	CONTENT COVERAGE OF MANAGEMENT OF THE LEARNING PROCESS	4.12	4.32	4.40

QUESTION		TEACHERS n=355	SCHOOL ADMINIS-TRATORS n=188	TEACHER EDUCATORS n=167
DOMAIN D: ASSESSMENT AND THE LEARNING PROCESS				
49	methods for gathering background information	2.67	2.96	3.05
50	student learning products for qualitative assessments	2.98	3.28	3.54
51	methods for establishing multiple records of student progress	2.74	3.04	3.25
52	methods for gathering quantitative data about student progress	2.78	3.08	3.12
53	teacher self-evaluation to enhance instructional effectiveness	2.94	3.19	3.41
54	measurement concepts	**2.47**	2.63	2.92
55	evaluation issues	2.54	2.68	3.19
56	methods for interpretation and reporting to students, parents, etc.	2.86	3.09	3.33
57*	**CONTENT COVERAGE OF ASSESSMENT AND THE LEARNING PROCESS**	3.84	4.05	4.32
DOMAIN E: PROFESSIONAL ISSUES RELATED TO TEACHING AND LEARNING				
58	social issues that affect education	3.28	3.25	3.29
59	school-related issues that affect education	3.06	3.05	3.09
60	political issues that affect education	**2.22**	**2.08**	**2.45**
61	schools' legal responsibilities to special populations	2.68	2.77	3.13
62	issues related to employment	2.72	**2.33**	2.74
63	teachers' legal rights inside and outside of the classroom	3.09	2.82	3.19
64	students' legal rights inside and outside of the classroom	3.13	3.13	3.31
65	regulations and practices based on federal law	2.59	2.57	2.83
66	roles and functions of school-related personnel	2.66	2.86	2.67
67	roles and functions of professional organizations	**2.26**	**2.04**	2.52
68	professional literature for teachers	2.61	2.84	3.30
69*	**CONTENT COVERAGE OF PROFESSIONAL ISSUES RELATED TO TEACHING AND LEARNING**	3.90	4.04	4.15

Appendix I

Knowledge Statements Rated Less than 2.50 by Relevant Subgroups

NOTE: This table includes respondents who considered themselves teachers (elementary, middle, secondary, and those who teach more than one school level), school administrators (school administrators, curriculum supervisors, and principals/asst. principals), and teacher educators. The respondents do not include people who indicated that they were retirees or temporary substitutes. The table also does not include people who indicated that they were state administrators, because this group numbered fewer than 30.

NOTE: Only subgroups which numbered 30 or more are included in this table, except for state administrators, which is one of the job categories.
T=Teacher (includes full-time substitutes); SA=School Administrator (includes school administrators, curriculum supervisors, and principals/asst. principals);
TED=Teacher Educator
S=South; FW=Far West; NE=Northeast; C=Central;
W=White; AA= African-American
F=Female; M=Male
0-5=0 to 5 years of teaching experience; 6+=6 or more years of teaching experience;
ELE=Elementary; MID=Middle; SEC=Secondary

QUESTION	JOB CATEGORY OF ALL RESPONDENTS			RESPONDENTS BY GEOGRAPHIC REGION				RESPONDENTS BY RACE/ ETHNICITY		RESPONDENTS BY SEX		TEACHER BY YEARS OF TEACHING EXPERIENCE		TEACHER BY SCHOOL LEVEL		
	T	SA	TED	S	FW	NE	C	W	AA	F	M	0-5	6+	ELE	MID	SEC
	n=355	n=188	n=167	n=206	n=173	n=161	n=186	n=624	n=71	n=379	n=347	n=53	n=666	n=93	n=117	n=74
DOMAIN A: HUMAN DEVELOPMENT AND THE LEARNING PROCESS																
1 2 linguistic factors that influence student learning															2.46	

QUESTION	JOB CATEGORY OF ALL RESPONDENTS			RESPONDENTS BY GEOGRAPHIC REGION				RESPON-DENTS BY RACE/ ETHNICITY		RESPON-DENTS BY SEX		TEACHER BY YEARS OF TEACH-ING EXPERI-ENCE		TEACHER BY SCHOOL LEVEL		
	T	SA	TED	S	FW	NE	C	W	AA	F	M	0-5	6+	ELE	MID	SEC
	n=355	n=188	n=167	n=206	n=173	n=161	n=186	n=624	n=71	n=379	n=347	n=53	n=666	n=93	n=117	n=74
DOMAIN B: CURRICULUM PLANNING AND DESIGN																
16 social and political conditions that influence teacher decision making	2.48											2.46	2.44	2.38	2.40	
17 social and political forces that influence teacher decision making															2.47	
18 social, political, and historical events that influence curricula planning	2.46				2.49		2.49					2.49	2.44	2.35	2.38	
22 definitions of education held by curricula planners	2.12	2.40		2.42	2.32	2.31	2.25	2.25		2.31	2.35	1.91	2.14	2.24	2.01	2.08
23 processes of curriculum/program development												2.43				
24 processes of curricular materials selection and evaluation												2.49				2.47
25 different models of curricula	2.40					2.49						2.17	2.41		2.29	2.19
26 learning trends influencing models of curricula	2.46											2.34	2.46		2.35	2.26

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QUESTION	JOB CATEGORY OF ALL RESPONDENTS			RESPONDENTS BY GEOGRAPHIC REGION				RESPON-DENTS BY RACE/ ETHNICITY		RESPON-DENTS BY SEX		TEACHER BY YEARS OF TEACH-ING EXPERI-ENCE		TEACHER BY SCHOOL LEVEL		
	T	SA	TED	S	FW	NE	C	W	AA	F	M	0-5	6+	ELE	MID	SEC
	n=355	n=188	n=167	n=206	n=173	n=161	n=186	n=624	n=71	n=379	n=347	n=53	n=666	n=93	n=117	n=74
DOMAIN D: ASSESSMENT AND THE LEARNING PROCESS																
49 methods for gathering background information																2.34
54 measurement concepts	2.47						2.49					2.36	2.48		2.39	2.49
55 evaluation issues												2.44			2.45	
DOMAIN E: PROFESSIONAL ISSUES RELATED TO TEACHING AND LEARNING																
60 political issues that affect education	2.22	2.08	2.45	2.31	2.20	2.19	2.23	2.18		2.25	2.21	2.11	2.20	2.05	2.14	2.33
62 issues related to employment		2.33					2.42									
67 roles and functions of professional organizations	2.26	2.04		2.36	2.21	2.29	2.18	2.19		2.34	2.16	2.19	2.28	2.31	2.24	2.25
68 professional literature for teachers															2.48	

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